

244127

JPRS 83726

21 June 1983

Worldwide Report

TELECOMMUNICATIONS POLICY,
RESEARCH AND DEVELOPMENT

No. 276

19981203 072

FBIS

FOREIGN BROADCAST INFORMATION SERVICE

DTIC QUALITY INSPECTED 3

Reproduced From
Best Available Copy

2
70
A64

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

21 June 1983

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 276

CONTENTS

ASIA

AUSTRALIA

Computer Market Compared With Singapore's, Malaysia's (Harry Douglas; THE AUSTRALIAN, 26 Apr, 5 May 83)	1
Government Affirms Telecom Will Remain Public Monopoly (Richard McGregor; THE SYDNEY MORNING HERALD, 23 Apr 83)	3
Telecom Wins New Users for Austpac Data Transmission (THE AGE, 26 Apr 83)	5
'Fragile' Computer Systems Used in Government Data Processing (Stephen Mills; THE AGE, 26 Apr 83)	7
Victorian Government Using Software System for Budget (THE AUSTRALIAN, 26 Apr 83)	9
Australia's Future Said To Lie in Software Development (Mike Barraclough; THE AUSTRALIAN, 26 Apr 83)	11
Briefs	
Computers in Education	13
TV Satellite Link	13
Landsat Maps	14

PEOPLE'S REPUBLIC OF CHINA

Specific Measures Formulated to Safeguard Communications Lines (Fan Kuide; SICHUAN RIBAO, 27 Jan 83)	15
Importance of Protecting Communications Lines Underscored (SICHUAN RIBAO, 27 Jan 83)	17

Beijing To Establish Color Television Center (XINHUA, 25 May 83)	19
Shanghai Provides Improved Telephone Service (JINGJI GUANLI, No 2, 1983)	20
Briefs	
Nei Monggol Microwave Link	24
Long-Distance Coaxial Cable	24
Broadcasting Meeting Ends	24
VIETNAM	
Briefs	
Southern Communications Line	25
LATIN AMERICA	
BERMUDA	
Telcom's Digital Telecommunications Systems Described (THE ROYAL GAZETTE, 27 Apr 83)	26
Multiplex Switching	
Future Plans, Potential	
Government Seeks To End Cable, Wireless Monopoly (THE ROYAL GAZETTE, 29 Apr 83)	28
Briefs	
Earth Station Delay	30
CUBA	
Briefs	
Computer Communication With Spain	31
NEAR EAST/SOUTH ASIA	
INDIA	
India, Nepal To Be Connected by Coaxial Link (PATRIOT, 13 May 83)	32
INSAT-1B Prelaunch Tested; Details Given (PATRIOT, 13 May 83)	34
Briefs	
All-India Radio Improvements	36
Kulu Earth Satellite Unit	36
Microwave Links To Be Monitored	36

NEPAL

- King Birendra Opens Radio Nepal's New Studio Building
(THE RISING NEPAL, 10 May 83) 38

USSR

- Maritime Satellite Communications Session Held
(TASS, 24 May 83) 40

WEST EUROPE

BELGIUM

- PRC To Discuss Communications Cooperation
(Brussels in French to Africa, 6 May 83)..... 41

FINLAND

- Finland To Follow Other Nordics: Separate Marine Phone VHF
(HELSINGIN SANOMAT, 5 May 83) 42

- Finnish Cities Starting Two-Way Cable TV Services
(UUSTI SUOMI, 9 May 83) 44

- Briefs
Videotex Cooperation Pact Signed 47

LUXEMBOURG

- Television Satellite Not Expected Until 1986
(Guenter Geldner; FRANKFURTER ZEITUNG/BLICK DURCH DIE
WIRTSCHAFT, 6 May 83) 48

NORWAY

- Plan for Pay-Cable TV Network Advances Despite Criticism
(Various sources, various dates) 50

Opposition in Parliament, by Per Danielson
Labor Party Organ Attacks Plan, Editorial

SUB-SAHARAN AFRICA

INTER-AFRICAN AFFAIRS

- PANA Effort To Promote Pan-Africanism Underway
(Lyse Ducet; WEST AFRICA, 23 May 83) 54

PANA Initiates Service on 25 May (Libreville Africa No. 1, 23 May 83).....	57
GABON	
Automatic Telephone Link To End Mouila's Communications Problem (Ogangaga-d'Ekarapango; L'UNION, 12 Apr 83)	59
NAMIBIA	
Briefs	
Microwave Link Planned	60
SOUTH AFRICA	
Briefs	
'Hopping' Frequency Success	61
Access to Information Network	61
Big IBM Computer	62
ZIMBABWE	
Briefs	
Educational TV Channel	63

COMPUTER MARKET COMPARED WITH SINGAPORE'S, MALAYSIA'S

Canberra THE AUSTRALIAN in English 26 Apr, 5 May 83

[Article by Harry Douglas]

[26 Apr 83 p 28]

[Text]

ONE of the things that has interested me of late is the number of overseas visitors endeavoring either to promote their software services or to encourage Australia to develop software in their particular country.

Among others, I have received inquiries from a representative from the Irish Government, a number of representatives from India and a delegation from Hong Kong.

Recently, I met Mr Kee, the managing director of a company called Computer Information Systems in Singapore.

The following is based on discussions I had with Mr Kee comparing the Australian DP market with those of Singapore and Malaysia.

HD: The projected growth rates for computer hardware in Australia in the next two years is: mainframes about 5 per cent a year, minicomputers about 15 per cent and microcomputers about 60 per cent — that is in terms of shipments, not dollars. What's the situation in Singapore and Malaysia?

Mr KEE: With minis and mainframes the percentage of growth is similar, but I believe that the micros' percentage growth rate is greater than that in Australia primarily because most of our businesses are small and the majority are family owned.

Spending

HD: Is there a possibility for Australian entrepreneurs to

manufacture or assemble their hardware systems here in the micro and automated office area and export these to either Singapore or Malaysia?

Mr KEE: I think the market would be more promising for micro manufacturers to assemble in Singapore or Malaysia but, the Singapore and Malaysian market is not big enough and they would have to export.

We are having talks with some Australian micro manufacturers at present.

HD: The Datac survey showed that in 1981, companies planned to increase their computer spending 23 per cent. In 1982 we found they planned a lesser rise — 20 per cent — and now, with the recession, in 1983 they are probably planning to increase by some 15 per cent, equivalent to about 4 per cent in real terms. What is the situation with spending in your area of South East Asia?

Mr KEE: We don't have actual figures, but because of government incentives, in Singapore any computer expenditure can be written off in one year.

There is a lot of encouragement from the government to computerise in Singapore and Malaysia.

Also, in Malaysia, the government has removed the duty on computers so we expect an increased growth rate in the use of computers.

The one year write off of expenditure on computers also refers to the cost of software.

HD: Talking about software, we have both software products and

customised programs. Are you referring to both of those or just the purchase of products?

Mr KEE: It is a new legislation and the details have still to be completed.

HD: In Australia, as in America, we spend more on staff than we do on computer and communications hardware. What is the position in your part of the world?

Mr KEE: Because of our lower wages, I believe that our percentage would be slightly different.

I think we still spend more on hardware than on staff.

HD: Seventy per cent of Australia's businesses with a turnover in excess of \$5 million use application program products. What is the situation in Singapore and Malaysia?

Mr KEE: Because of our labor cost, most of our mainframe and mini sites still use customised software, while most of the micros use packaged software. I think it will change in the future to the use of more packages.

HD: In Australia, approximately one quarter of the major companies are using fourth generation languages. What is your experience in the area of fourth generation languages?

Mr KEE: Fourth generation languages are still not in use in my part of the world, but they are causing a lot of excitement and a lot of people are investigating.

No doubt they will become more popular for the simple reason of the speed of getting the application working.

HD: On the question of salaries, our programmers and analysts

are paid from \$18,000 to \$27,000 depending on seniority: this excludes project leaders, consultants, etc. How much do you pay?

Mr KEE: Our systems analysts and programmers start at about \$12,000 and progress to \$24,000.

HD: Salaries for Australian EDP managers range from \$30,000 to \$35,000 per annum, but these are averages and naturally many individual EDP managers, especially in large organisations, would be earning considerably more. How does this compare with your country?

Mr KEE: Our EDP managers for large installations tend to receive \$60,000 and more a year.

Turnover

HD: Last year the staff turnover in this country was 25 per cent, but it is falling as a result of the recession. How does that compare with your country?

Mr KEE: Our staff turnover would be more like 40 per cent.

HD: Despite attempts to get computer managers to report directly to the chief executive, we

find that almost half of the EDP management report to the financial area of the company. What is the position in your case?

Mr KEE: I think our figures would be fairly similar to yours because most computer departments are adjuncts of the finance department and because the majority of computers are still being used for commercial applications rather than operational aspects of running the business.

This interview will be continued in next week's Viewpoint.

[5 May 83 p 22]

[Text]

TODAY I shall continue my interview with Mr Kee, managing director of Computer Information Systems in Singapore.

HD: On the subject of the drop-out rate of software houses; you will probably have noticed during your visits to Australia over the past 10 years that many of the companies you used to phone in the Yellow Pages are no longer in the software business.

What is the experience in your country?

Mr KEE: The success rate of our software companies also is unfortunately not very good, because companies tend to be under-capitalised.

HD: Could you tell us about the institutes that the Singapore Government set up?

Mr KEE: The Singapore Government has set up two institutes: one with IBM, the other with NEC.

The objective for the institutes is to build up a pool of software personnel so that Singapore can eventually become a software export country.

It is well known that it is the objective of the Singapore Government to export brain-power.

The institutes started in 1981/82 and are in an intensive development stage and I am sure it will take a few years for this objective to be realised.

HD: Australia set up several institutes, for example, IBM in Canberra in the sixties, ICL in Adelaide in the early seventies and the Western Australian Government assisted the setting up of the Systems Research Institute of Australia which is based in Perth.

The IBM and the ICL ventures closed, the West Aust-

ralian venture is still proceeding, but it is not as large as predicted.

Two other Australian ventures are BHP, which established a large training institute in Newcastle and Wollongong and which has now practically ceased to exist, and perhaps the major example was the Public Service Board in Canberra which gave management courses, programmer training courses and also intermediate courses over a number of years. This has also ceased to operate.

So, of the five, only the WA venture still exists and employs a full-time staff of about 20.

How much money is the Singapore Government pouring into the computer industry, over how many years and what proportion is for hardware manufacture such as chip plants and what proportion is for software production?

Mr KEE: The Singapore Government's emphasis is on software and I think their expenditure will basically be for mainframes, software and for staff that will run these institutes.

HD: What about chip plants?

I heard the Government trained many technologists in this area and by doing so took a gamble because they didn't have an indigenous industry.

Mr KEE: As far as I know, Singapore is not involved in the design of chips, but the Singapore Government has given considerable incentives for foreign companies producing chips to manufacture in Singapore.

HD: In the Australian computer industry, the ratio of imports to exports is 15:1.

What is the ratio in Singapore with respect to hardware?

Mr KEE: I would believe that we export more hardware than we import because we have a number of plants including Apple, DEC, Olivetti and quite a few other disc manufacturers, including Tandon, Seagate, HP — they are all there.

So, I believe we probably export more than we import.

I believe the Singapore Government is also engaged in a joint venture with the Indian Tata group to produce machines which I believe will be called "Excelsa".

HD: In Australia, if we make 10 per cent gross profit on, say, a turnover of \$1 million of consulting fees, then the profit of \$100,000 would first be taxed by the Government taking \$46,000, leaving \$54,000 to either distribute to the shareholders or we can retain up to 80 per cent of that within the company.

The amount distributed as dividends would probably be taxed at the full personal tax of 60c in the dollar.

What is the situation for a software house in Singapore?

Mr KEE: If the software house operation is approved by the Singapore Government, which means that it "added value" and it "raises the technology level" with the people and there is export, I believe the Singapore Government does give incentives like a tax-free component, which means that any profit made or distributed to any shareholder is free of tax.

HD: The Industries Assistance Commission is currently conducting an inquiry into the Australian computer hardware and software industries, so possibly they could learn something from the incentive schemes you have just mentioned.

AUSTRALIA

GOVERNMENT AFFIRMS TELECOM WILL REMAIN PUBLIC MONOPOLY

Sydney THE SYDNEY MORNING HERALD in English 23 Apr 83 p 5

[Article by Richard McGregor]

[Text] Canberra.--The new Minister for Communications, Mr Michael Duffy, yesterday ruled out private sector involvement in providing telephone and communications services in Australia.

In his strongest statement since becoming minister, Mr Duffy said a commitment to a public monopoly telecommunications network was essential, and any other course would be a disaster for the national network.

With his statement, Mr Duffy has sounded the final death knell for 103 recommendations of the last year's Davidson Committee, which called for sweeping changes to Telecom to allow private enterprise into the communications field.

Mr Duffy said: "The almost absurd view put forward to allow private enterprise to come in and take what they want to take out of the area--that is, the profitable areas--and leave the rest to Telecom, is an absurdity that ought to be obvious to everyone."

Mr Duffy was speaking in Canberra at the launch of a book about Telecom, called The Phone Book, by two Sydney journalists, Ian Reinecke and Julianne Schultz.

Mr Duffy said the book clearly shows that the argument that Telecom would become more efficient with competition was "both misleading and deceptive."

"I am in total agreement with the authors that Telecom has provided a service of the highest quality despite attempts by the past Government to place difficulties in its path, culminating in the recommendations of the Davidson committee."

Mr Davidson, the head of the company Commonwealth Industrial Gases, was asked by the Fraser Government to report on how the private sector could become involved in communications. His recommendations were greeted enthusiastically by the then Minister for Communications, Mr Brown.

At the launching yesterday, Mr Duffy pointed out what he said was an error in the book. He said that it was wrong that Senator John Button, the Labor spokesman on communications in opposition last year, had only rejected the Davidson report and supported the Telecom monopoly after pressure from the various telecommunications unions.

Mr Duffy said: "This was a view adopted by the senator because of his belief in that concept and not because of pressure from the unions and threats to his pre-selection as suggested in the book."

CSO: 5500/7565

AUSTRALIA

TELECOM WINS NEW USERS FOR AUSTPAC DATA TRANSMISSION

Melbourne THE AGE in English 26 Apr 83 p 34

[Text] Despite some early teething problems, Telecom Australia now expects to have nearly 20 customers connected to its new Austpac data transmission service by the end of next month.

Speaking at an Austpac user's meeting last week, Telecom's data manager, Mr Neil Crane, said seven suppliers of computers and computer services were already connected to the new service, which began on December 30 last year.

"Not only will we have another 12 customers on the network by the end of the next month, but the number of direct X.25 ports (network links) in use will increase from seven to 30," he said.

"In addition, X.28 asynchronous dial-up ports are also available for customers' terminals on the switched telephone network and international access will be available to the initial customers on 30 June."

Mr Crane told the user group that the staged development and expansion of Austpac beyond stage 1, which was announced earlier this year, would incorporate upgrades of hardware and software, as well as expansions to the system.

"This expansion involves the provision of added switching nodes in Sydney and Melbourne, and the establishment of initial switching nodes in Perth, Adelaide, Brisbane and Canberra," Mr Crane said.

"Orders have been placed for the necessary equipment, and this expansion is expected to be completed by the end of 1984."

Mr Crane said Telecom expects that the range of facilities will be greatly expanded this year, and confirmed that there were no user charges at the moment.

He said a further announcement on charges would be made at the next Austpac user meeting which is to be held later this year.

Mr Crane said that at this stage preferential treatment was being given to computer suppliers so they could get early connection to the network.

He said other users could now be connected to the service, and suggested they take advantage of the present charge-free period to test their applications on the system.

"We do not recommend, however, that users enter commitments for installing large applications on the network in the short term," Mr Crane said. "Users with such requirements should first discuss them with Telecom's data consultants."

CSO: 5500/7565

AUSTRALIA

'FRAGILE' COMPUTER SYSTEMS USED IN GOVERNMENT DATA PROCESSING

Melbourne THE AGE in English 26 Apr 83 p 10

[Article by Stephen Mills]

[Text] Canberra.--Many computer systems in the Public Service showed signs of having been installed hastily to meet tight deadlines, an investigation of the Government's automated data processing has found.

Some systems were also "obsolete and fragile" according to the report, prepared by the accountancy firm, Arthur Andersen and Co., for the Public Service Board.

The increasing dependence on computers, as well as the shortcomings in the systems which had been bought by the service, had exposed senior public servants to greater management risks in industrial relations, security and accountability, the report said.

It urged the Government to give stronger direction to improve Public Service management of computers. This included earlier involvement by Federal Cabinet in the purchasing process.

More than 4000 public servants work on computers. There are about 100 medium and large computers, requiring a total annual expenditure of \$350 million.

While the systems were good for routine work, not enough use was made of them in providing managers with information to improve departmental efficiency and monitor programs, the report said.

Much of the reason for this was that when computers were bought, there was too much emphasis on dollar savings, which were not as easily demonstrated for providing management information as for speeding up the routine work, it said.

"Whether the systems are available or not, managers are expected to react to huge quantities of data and to use a quantitative approach to problems of administration, the analysis of policy options and the operations of programs.

"Unfortunately, management has found it hard to fulfil many of the expectations, and the latitude once extended on account of inadequate information is no longer given them."

The report said the problem was often exacerbated by the political pressures on management from industrial relations problems, competition between rival interest groups and the media.

CSO: 5500/7565

VICTORIAN GOVERNMENT USING SOFTWARE SYSTEM FOR BUDGET

Canberra THE AUSTRALIAN in English 26 Apr 83 p 21

[Text] A computer installed by the Victorian Department of Management and Budget is said to be giving a threefold improvement in the time and effort involved in receipting and recording the revenue entering the State coffers every day.

The DMB assumed the functions of the old Treasury when the Labor Government came to office in April last year.

The system software, known as SMACS (Standard microcomputer accounting system), is running on a micromation computer with a 20-megabyte Winchester hard disc and twin 8in diskette drives.

By handling five different recording, audit and receipting functions from the one entry, the system has markedly reduced errors and reduced the backlog of functions like the issuing of receipts.

The system also produces a range of regular reports and acts as a front end for the DMB's central general ledger, which is a batch processing system.

At the end of each day it converts the account information into code for the keypunch operators.

The DMB has responsibilities in the cash-receipting field that make those of the average retailer pale into insignificance.

As the statutory receiver of revenue, the department has the responsibility of receiving all monies paid to Government departments and their various State offices.

Complexity

These range in size from millions to a few dollars, from land-tax payments to miners' rights.

The chart of accounts for revenue contains more than 2000 accounts.

"We first began looking at cash-register systems, but, because of the complexity of the chart of accounts, we found we should be looking at micro-computer systems," a spokesman said.

The DMB eventually accepted a tender from the Government Computing Service for the software and chose a Micromation microcomputer from Microprocessor Applications, of Box Hill, Victoria, on the recommendation of GCS.

SMACS is being developed in three standalone or interactive modules--revenue, payments, and invoicing/debtors--by the DMB in conjunction with GCS.

CSO: 5500/7565

AUSTRALIA

AUSTRALIA'S FUTURE SAID TO LIE IN SOFTWARE DEVELOPMENT

Canberra THE AUSTRALIAN in English 26 Apr 83 p 21

[Article by Mike Barraclough, director of the TCG Group]

[Excerpts] A new phenomenon has made itself apparent in the computer industry in the past 12 months; and from a host of newly-formed start-up companies, a new breed of computer is emerging.

Often referred to as supermicros, these computers are challenging the traditional minicomputers as well as providing an "up-market" personal computer; or, to use the new terminology, a work station.

New-generation computers, they typify the evolution of computer design and manufacture.

In the past the development of a computer was usually wholly undertaken by a single manufacturer.

Today's computer production, however, is more akin to a car manufacturer's assembly line, with components being brought in from many suppliers and a wide variety of sources.

With this knowledge, it seems likely Australia could develop sophisticated utilities software, such as database and specific vertical market software.

An Australian, Richard Miller, made the first "port" (converting software from one computer to another) of Unix from a DEC machine in 1977 at Wollongong University.

Time is now of the essence, because, easy as it is to develop a new and better processor, it is equally easy for the next newer and better one to appear from a competitor.

Rather than build American look-alikes in Australia, we should aim for more specialist equipment and software.

It is an area in which government assistance, in the form of grants, could reap major benefits for Australia and its export market.

At present, assistance for hardware development is available; but software, which requires fewer capital resources, is sadly neglected.

Lack of funding means development work must be done on a shoestring budget, and frequently precludes any sort of innovation.

Perhaps with appropriate assistance from government we could evolve our own Silicon Valley, to provide the synergism necessary to reach that critical mass which would make international success possible.

CSO: 5500/7565

BRIEFS

COMPUTERS IN EDUCATION--Canberra.--The Minister for Education and Youth Affairs, Senator Ryan, has authorised the creation of a committee to advise her on the structure of a national computer course for schools. Senator Ryan said yesterday that the committee had met for the first time in Canberra last week and would report to the Commonwealth Schools Commission by 30 September. The Minister told THE AGE recently that she hoped the widespread introduction of computers into schools would occur by the beginning of the 1984 school year. "I'm not infatuated with computer technology," she said. "However, I think education in the whole computer area, how they work, programming, the whole thing, is vital to young people. That's not because I think that computers are the be all and end all or we have to change everything about the way we think and operate because of computers, but because they're now an essential part of work, information processing and retrieval and we all have to understand how they work." The Government is committed by its education policy to spend \$9 million in the next year on the comprehensive introduction of "hands on" computer experience for students. Opening a computer centre at Kenmore High School in Brisbane yesterday, Senator Ryan said it had been made clear at the national economic summit that the foundations for Australia's industrial resurgence lay in the capacity of educational institutions to provide the skills and training which would be required for new, high-technology industries. [Ken Haley] [Text] [Melbourne THE AGE in English 19 Apr 83 p 6]

TV SATELLITE LINK--The Prime Minister, Mr Hawke, "switched on the world" yesterday when he opened the Channel 7 network's new \$4 million satellite link to international news services. Speaking on ATN's program 11 AM, Mr Hawke said he had always believed that better decisions were made if there was more communication and information. "And when we get to the bottom line it is a question of what is happening around the world that will affect our decision-making," the Prime Minister said. "This satellite will play a significant part in disseminating information to Australians about what is happening in the world around us." Seven's news director, Mr Vincent Smith, said yesterday that the network had the first 24-hour satellite link into the world carrying two audio and video signals simultaneously. It enables constant contact with the Cable News Network service in the United States and, at the same time, the ability to use the instant services of Channel 7's own correspondent in the US, Kerry O'Brien. [Text] [Sydney THE SYDNEY MORNING HERALD in English 23 Apr 83 p 7]

LANDSAT MAPS--The WA Surveyor-General's division is preparing a new series of Landsat maps covering the Kimberleys, Canning, Murchison and Goldfields areas. The maps, prepared from Landsat satellite photographs, are expected to be available in several months' time. The Minister for Lands and Surveys, Mr McIver, said yesterday that the maps were revolutionising resource exploration and development in WA. "Companies interested in geophysical data, geography, land management and natural-resource investigation will be able to use the new maps to greatly enhance their knowledge," he said. "The maps in final form comprise Landsat pictures all arranged and colour-matched to provide a total picture." Mr McIver said that application outside mineral exploration was often overlooked. They could show over-grazing in pastoral areas (information that could be used in developing better pastoral management methods) and freshwater and marsh areas which were vital to maintaining bird populations. [Text] [Perth THE WEST AUSTRALIAN in English 26 Apr 83 p 10]

CSO: 5500/7566

SPECIFIC MEASURES FORMULATED TO SAFEGUARD COMMUNICATIONS LINES

Chengdu SICHUAN RIBAO in Chinese 27 Jan 83 p 1

[Article by Fan Kuide [2868 1145 1795]: Safeguard Unimpeded Communications Lines To Meet Four Modernizations Requirements. Provincial Posts and Telecommunications, Military, and Public Security Sectors Formulate Specific Measures for Further Strengthening of Line Safety Work"]

[Text] From 6 to 11 January, under leadership of the Sichuan Provincial Government, seven sectors including posts and telecommunications, the armed forces, public security, petroleum, railways, nuclear industry, and the provincial communications strategy office convened a conference on safeguarding communications lines, which studied and put into effect the State Council and Central Committee Military Commission recently promulgated "Regulation on Protecting Communications Lines." They discussed and formulated specific measures for further strengthening the safeguarding of communications lines. Since founding of the People's Republic, great expansion has occurred in the building of post and telecommunications lines, and of communications lines for the use of the armed forces, railway, and petroleum organizations. They blanket the cities and the countryside, and together with shortwave radio and microwaves, they form the province's communications network. At the present time the province can communicate with 116 countries and regions. Within the province, telephone communications exist to 99.5 percent of communes and more than 16 percent of production teams. Not only has this provided convenience in mass use of post and telecommunications, it has also made a major contribution to assuring important party, government, and military communications, in strengthening transportation and communications, in controlling energy, in fighting floods, in dealing with emergencies, in providing disaster relief, and in developing international relations. Nevertheless, building of the province's communications has lagged very, very far behind development of the national economy, and communications are frequently strained to the limit. Assuring safe and unblocked communications lines is an urgently important matter.

In order to do a good job of safeguarding communications lines, the conference called for the following: All departments concerned in the province should assiduously carry out "Regulations on Protection of Communications Lines." Post and telecommunications, and military units having communications lines, as well as other related departments should closely coordinate and, under leadership of the party and government, should transmit the spirit of the "Regulations" to the broad masses of cadres and people so that it becomes widely known in every household. Individual communications departments should strengthen the maintenance and management of lines. They should contract sole responsibility for task completion section by section, work out countryside regulations and civilian agreements, and organize joint commands of public order forces. They should arouse and rely on communications line militia, on public safety organizations, and on the masses for protection of lines. Counterrevolutionaries and criminal elements who destroy communications lines and endanger communications security should be resolutely attacked. Units, collectives, and individuals with outstanding achievements in the protection of communications lines should be given commendations and rewards.

9432

CS0:5500/4129

IMPORTANCE OF PROTECTING COMMUNICATIONS LINES UNDERSCORED

Chengdu SICHUAN RIBAO in Chinese 27 Jan 83 p 1

[Article: "Everyone is Responsible for Protecting Communications Lines"]

[Text] Communications are a country's nervous system. From the implementation of party and state programs and policies, organization of the economy, and directing production to sending a telegram, making a telephone call, receiving a television program, reading the newspaper, and exchanging ideas, everything is inseparable from communications. Most of the transmission of information is done through communications lines. Maintenance of safe and unimpeded communications lines directly bears on the carrying out of the normal work of all sectors of the national economy, bears on national defense and strategy, and bears on the personal interests of the masses of people.

Both the party and the state are extremely attentive to the development of communications. Since founding of the People's Republic, very great efforts have been devoted to construction in this regard. Both the 12th Party Congress and the Fifth Session of the Fifth National People's Congress emphasized post and telecommunications construction as part of economic construction during the next 20 years. Sichuan Province's communications are currently fairly substantial, with communications lines of various kinds blanketing cities and the countryside, extending in all directions. However, precisely because of the extensive communications lines, plus the complex geography of the province, the task of maintaining unimpeded communications lines is a more arduous one. Because we have not promptly kept pace in this work, frequently natural and man-made outside influences have caused a breakdown of communications lines and the interruption of communications. In order for communications to meet the demands of the new situation, and to advance building of the four modernizations, greater protection of communications lines has become an urgent task.

In order to do a good job of safeguarding communications lines,

it is necessary to give wide publicity to the major importance of safeguarding communications lines, and to arouse and rely on the broad masses to safeguard the lines. Communications lines are characteristically closely dovetail entire routes, entire networks, and trunk and branch lines. Blockage at any point affects the whole system. Communications also have a strong time factor. For example, during the fight against flooding and the emergencies of two years ago and of last year, every minute and every second had a bearing on the safety of millions of people's lives and national property. Facts have fully shown that safety of communications lines is intimately related to every individual. At the same time, safeguarding lines requires action from all. Communications lines spread through farflung mountain regions and rural villages where commune members farming the fields or workers engaged in construction frequently come in contact with them. Only by making the broad masses understand the reasons for protecting communications lines so that they will consciously safeguard them can the lines be kept unimpeded. Right now emphasis should be given to "Regulations on Protection of Communications Lines," and every method used to create public opinion and make everyone fully aware. In the course of publicity, education in the protection of lines should be closely linked with education in the legal system. A sense of pride and a sense of responsibility in protecting communications lines should be instilled for initiative in combating actions that threaten the safety of communications lines.

The key to doing a good job of communications lines safety lies in the strengthening of leadership. Communications lines exist at many points, cover a wide area, and are extensive. Protection of communications lines involves all trades and industries. Sole reliance on communications departments will not do. CPC Committees and government at all levels should place this task on their important daily agendas, centrally organize, strengthen leadership, adopt genuinely workable measures, establish and perfect leadership organizations for the protection of lines, link a specialized corps and the masses for the protection of lines, organize line protection teams and joint commands of public order forces, assign tasks to the grassroots level, formulate village regulations and civilian agreements, organize the masses, and safeguard communications lines. Counterrevolutionaries and other criminal elements who destroy communications lines should be resolutely attacked and sternly punished. We are determined to strive in every way to achieve success in the safeguarding of communications lines within a short period of time.

9432

CSO: 5500/4129

PEOPLE'S REPUBLIC OF CHINA

BEIJING TO ESTABLISH COLOR TELEVISION CENTER

OW251247 Beijing XINHUA in English 1232 GMT 25 May 83

[Text] Beijing, May 25 (XINHUA) -- A color television studio and production center, covering 104,000 square meters, will be set up in Beijing by the central television station of the Ministry of Radio and Television, according to the ministry. Preparations are complete and construction is scheduled to begin soon. The project, which is slated for completion in five years, includes a 24 story building for program broadcasting and a three story building for production. After completion of the center, news, feature, education and entertainment programs will be broadcast by three channels simultaneously to all parts of China through broadcast satellite and microwave trunks. Daily, multi-channel broadcasting will last 33 hours. Another channel will be used especially for receiving and transmitting news programs with TV stations in foreign countries. All programming will be computer controlled. The new TV center will have 20 studios in the two buildings, and the total hours for producing TV programs each week will reach 172.5 hours, 9.5 times the present capacity. The purpose of the center is to offer people more quality TV programs and more hours. The present facilities, which were equipped in 1961 for black and white programs are not suitable for the increasing demands of the television development. The station has only two channels now, one for national broadcasts and the other for Beijing, and only two studios.

CSO: 5500/4154

PEOPLE'S REPUBLIC OF CHINA

SHANGHAI PROVIDES IMPROVED TELEPHONE SERVICE

Beijing JINGJI GUANLI [ECONOMIC MANAGEMENT] in Chinese No 2, 83 pp 21-22

[Article by the Policy Research Office of the Ministry of Posts and Telecommunications: How Shanghai Solved Difficulties in Making Telephone Calls"]

[Text] Since 1982, the Shanghai Telephone Office has made a concerted effort to solve the difficulties in its telephone system by improving its communication capability and efficiency. In particular, on the basis of user demand, a reform in management policy toward "production management" was initiated with good results. According to statistics, between January and September 1982, telephone equipment increased by 6,000 units; telephone users increased by 5,310 lines, which is double the increase during the same period of 1981. As a consequence, the target plan to increase 5,000 lines by the end of the year was completed 3 months ahead of schedule. Initial progress was also made to correct the problems with low rate of call completion and slow dialing tones. The increase in telephone lines not only benefits the users but also the telephone industry. Between January and September 1982, the revenue of the Telephone Office reached 34.3 million yuan, an increase of 7 percent over the same period of the previous year. Their basic approach is as follows:

Identify Ideology and Target for Reform

Since the 11th 3rd Plenum of the Party Central Committee, the stagnant situation in Shanghai's telephone communication service has changed: telephone equipment increased by 26,000 units in 3 years; total capacity increased by 23.7 percent over 1978; new telephones were installed for 16,000 users; and public telephones were increased to more than 2,800 locations. However, the tense situation still existed; difficulties with telephone installation and service were frequently encountered. Each year there were more than 10,000 new applications for telephone service, most of which could not be accommodated; the number of users waiting for service increased to more than 26,000. Because of the ever increasing telephone traffic, the rate of call completion hovers around 50 percent. During busy periods the dialing tone could be as long as 120 seconds. As a result, there were many complaints from users.

The Shanghai Telephone Office is one of the better organizations of the Shanghai Ministry of Posts and Telecommunications. In recent years it has undergone many reforms, but little progress was made. In 1982, with the help of an investigation group of the Shanghai Posts and Telecommunications administrative office, an analysis of the previous reforms was made, and it was concluded that a true reform must be based on user demand, and that an increase in communication efficiency will lead to increased profits. Only by increasing the communication capability and improving the service and quality of communication to meet the society's needs is it possible to increase the nation's revenue, the industry's profits, and the employee's earnings. As a target for reform they decided to concentrate their efforts to solve the difficulties in telephone installation and telephone traffic. Also, an investigation group was organized jointly by the Shanghai Posts and Telecommunications administrative office, the Shanghai Telephone Office, and the telephone branch offices. The Taixin Road branch office, which had the largest number of users waiting for service, was chosen as the test point, and the project quickly got underway.

Shifting From the Policy of "Sales Based on Production" to the Policy of "Production Based on Demand"

The first problem encountered during the investigation of the Taixin Road branch office was the following. On the one hand telephone installation was constrained by civil construction and limited conduit and line capacity; on the other hand new telephone equipment were not fully utilized. This office installed 4,000 new telephone switching units in 1981, but the 1,687 users still did not receive telephone service. The main reason was that line construction could not keep up with equipment installation; hence new equipment did not result in enhanced communication capability. To solve the problem the following departments were organized: planning and design, construction, administrative, line assignment, and number assignment.

On the basis of information gathered on telephone line distribution and list of waiting users, a "density map of line shortage" was constructed; each street, each neighborhood, and each cable was surveyed and analyzed. It was found that the main problem arose from the fact that the design department did not fully utilize user data, and ignored "market" demands' also the line assignment department did not design and install the phone lines according to user needs, but rather according to general technical procedures. The result was that there was a shortage of telephone lines in areas where many users were waiting, whereas in the areas with ample supply of phone lines, there were only a few waiting users.

To correct this situation, the investigation team felt that a policy of "production based on demand" should be adopted for developing the telephone system in the city. Based on the "density map of line shortage" the procedure of line assignment was revised; specifically, telephone lines would be first assigned to areas with high concentration of waiting users, and the design and installation work would also be accelerated. At the end of September 1982, the Taixin Road branch office had added 1,103 lines, which met the demands of 65 percent of the waiting users serviced by the branch

office also conducted investigations of high volume users who made more than 800 calls per month and of the 156 public telephones. Wherever possible the branch office took the initiative to install extra lines and trunk lines for the users. As a consequence, the rate of incomplete calls was significantly reduced, and the rate of call completion was increased. In 1981 the rate of call completion of this office was 45 percent; in the first half of 1982 the rate increased to 54 percent; by the third quarter it reached 59 percent. After sharing the experience of the Taixin Road branch office, the 17 branch offices of the Shanghai Telephone Office greatly increased their pace of phone line installation. The result was particularly pronounced in the six branch offices where facility expansion was taking place.

Reforms in Management System and Policy

In order for the Shanghai Telephone Office to shift to the policy of "production based on demand", it was necessary to implement certain reforms in the management system, the production organization, and the administrative policy within the Bureau. In particular, the following three innovative efforts were initiated:

The first effort consisted of reorganizing and improving the system of financial responsibility within the office. In the past, only indices of technical quality were passed to the branch offices as guidelines; indices of increase in the number of phone lines and of business revenue were controlled by the Bureau. Therefore, the branch offices were reluctant to install additional lines for fear of adversely affecting the rate of call completion. In 1982, a procedure was established for assessing the performance of the Shanghai Telephone Office, which based on a combined score of communication capability and profits. It also included performance indices based on the increase of user phone lines, the increase in public telephones, the increase in relay lines, as well as the revenue to cost ratio, the average labor output per person, and return on capital. Using these indices as guidelines, the Telephone Office assigned responsibilities to the individual departments; the departments in turn used the indices in reviewing the performance of each employee. The establishment of such a system greatly motivated each branch office in carrying out their work of installing additional phone lines and eliminating telephone traffic congestion.

The second effort consisted of reforming the management system for network development. The development of telephone network involved 12 segments and 9 departments with no strong organization in a leadership role. After the reform, it was decided to organize the various segments into "a coordinated process," with the newly established network development department as the "head" to coordinate the entire work force. In the past, to apply for telephone, a user must obtain a work order from the administrative office, receive line assignment from the communication department, and receive a number assignment from the branch office. The process involved scattered levels of management and required approvals from many organizations; there were frequent delays which adversely affect efficiency. On the other hand, there was no one responsible for business forecast and line assignment planning. After the reform, the seven segments responsible for number assignment were reorganized into "a coordinated process" under a single command; also, a business forecast group was established to improve information management.

The third effort consisted of setting a time limit for telephone service. In the past, even with equipment and lines readily available, a user applying for a telephone must wait an average of 59 days before it was installed; to remove a telephone required 30 days. Now, the processing segments have been simplified and the efficiency of service has been improved. The new time limit specifies that under the condition that lines and equipment are readily available, the total time period from application to installation does not exceed 30 days, and the time period required to remove a telephone does not exceed 14 days.

3012

CSO: 5500/4138

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

NEI MONGGOL MICROWAVE LINK--A radio-TV microwave link between Shanxi Province's Taiyuan and Nei Monggol Region's Hohhot went into operation on 12 May. The microwave link is 504 kilometers long. With the microwave link, the region can receive programs directly from the Beijing station. [Summary] [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 13 May 83 SK]

LONG-DISTANCE COAXIAL CABLE--Construction of the Beijing-Wuhan-Guangzhou medium-size coaxial cable communication line is speeding up. The project, which covers a total of 3,026 km, calls for the installment of 2 sets of 1,800-channel carrier communication equipment and the construction of 19 manned and 470 automatic repeater stations along the line and 4 long-distance communication centers at Shijiazhuang, Handan, Wuhan and Guangzhou. Construction of the project was started in 1976. By the end of 1982, the Beijing-Zhengzhou section was already complete. Now the cable is also in place in the section between Zhengzhou and Changsha. Completion of the project was originally targeted for 1987, but now the Ministry of Posts and Telecommunications believes it can be completed by 1985. [Summary] [Beijing Domestic Service in Mandarin 1200 GMT 17 May 83 OW]

BROADCASTING MEETING ENDS--The meeting of the appraisal of stereo FM broadcasting work and on the examination and approval of the national standard which was jointly held by the Ministry of Radio and Television of the State Council and the Guangdong Provincial Science and Technology Committee, concluded in Guangzhou yesterday. The meeting appraised stereo FM broadcasting work in which Guangdong had engaged and decided to use the pilot wave [daopin] method in stereo FM broadcasting in our country. The tone quality of stereo FM broadcasting is beautiful and pleasant to listen to. From the beginning of the 1980's, our country has carried out stereo FM broadcasting on a trial basis of the broadcasting stations of over 10 provinces and cities, including Harbin, Guangzhou, Shanghai, and Tianjin, one after another, in order to study the pilot wave method, which suits the situation in our country. The use of the pilot wave method, on which this meeting decided, is an achievement in scientific research jointly conducted by the Guangdong Provincial Broadcasting Bureau, the Huanan Industrial College, the Ministry of Electronics Industry. They conducted research for several years and a large amount of investigation, consulted relevant data and documents at home and abroad, and conducted penetrating theoretical analyses, study, and experiments in broadcasting before they succeeded. [Text] [HK311256 Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 29 May 83]

VIETNAM

BRIEFS

SOUTHERN COMMUNICATIONS LINE--The post and telegraph sector recently commissioned the Ho Chi Minh City-Da Nang communications technical center with 981 km of telephone line and 13 microwave towers. This new center has now been linked with the Hanoi-Da Nang communications center which was completed in 1982. The Post and Telegraph General Department has also connected communications lines in 21 provinces and cities with Hanoi municipality. [Summary] [Hanoi Domestic Service in Vietnamese 0400 GMT 30 May 83 BK]

CSO: 5500/4346

TELCOM'S DIGITAL TELECOMMUNICATIONS SYSTEMS DESCRIBED

Multiplex Switching

Hamilton THE ROYAL GAZETTE in English 27 Apr 83 Supplement p 8

[Excerpt] The DMS-100 family of digital multiplex switches, the nerve centers of the digital telecommunications network cut over last month by the Bermuda Telephone Company, is the most versatile and sophisticated system of Northern Telecom, Ltd.'s DMS series.

The Bermuda Telephone Company has installed two of these advanced telecommunication switching machines, one a DMS-100/200 for local and long-distance operations and DMS-100 for local calls.

Their expandable modular design allows either for the replacement of an existing obsolescent system or for the consolidation of a cluster of smaller diverse systems. Ideally it suits the needs of a country such as Bermuda where increased traffic can be anticipated.

The DMS-100 can interface with and can incorporate analog systems, but provides maximum benefits in space, equipment and operation when related to other DMS systems. The Basic DMS-100 is a local system and the DMS-200, a toll system. They can be combined as has been done in Bermuda.

Like all of the DMS series, members of the SM-100 family use software programs and semiconductors to program a maximum flow of traffic through a minimum number of digital circuits. The heart of each DMS-100 system is its compact solid-state central control complex, which like most major components of the system

is duplicated to ensure operational reliability. Each control complex consists of four units: A central processor unit that draws on stored software programs and network data to decide that action is needed to operate the network and to issue the necessary commands. A program store memory module implanted with software instructions for call processing, maintenance and administrative tasks. A data store memory module that stores and makes available information on traffic, including customer and accounting data. And a central message controller that controls the flow and priority of traffic between the central control complex and the next level of the system, the switching network.

The switching network of a DMS-100 centers on duplicated network message controllers. Each of these is comprised of a bank of network modules that control traffic over paried digital links to and from the various peripheral modules that make up the next level of the system.

The network installed in Bermuda includes remote lines modules which extend all the benefit of the system to rural, suburban and business subscribers within a radius of 80 km of the main switches. Needless to say, this sophisticated system can provide when they are needed every state-of-art service features that subscribers may require.

Future Plans, Potential

Hamilton THE ROYAL GAZETTE in English 27 Apr 83 Supplement p 9

[Excerpts]

The digital world conceived by Northern Telecom in 1976 is a blueprint of the future of telecommunications. It has made Northern Telecom, manufacturer of the digital telecommunications equipment that today forms the Bermuda Telephone Company, Ltd., network, the world leader in a technology that will dominate global communications before the end of this century. By year-end the corporation had sold, or had on order, fully digital switching and transmission systems to serve the equivalent of more than 10 million telephone lines. This is more than any other company in the world. But while the end results may be revolutionary, the means devised to effect that end are evolutionary.

Today, the comparative status of the analog and digital systems is being reversed. After 100 years of service, the analog system still provides adequate telephone communications world-wide. But like telegraphy, it, too, has arrived at the limits of its capability and its perfectibility. In areas of high-density traffic, it is increasingly costly to provide the transmission facilities required by the analog system. And because the analog signal tends to become distorted and pick up noise over long distances, it falls short of the exacting standards demanded for data transmission, a rapidly growing segment of the telecommunications market.

By contrast, the digital technology developed by Northern Telecom is capable not only of adapting, enhancing and expanding existing networks for voice and data, but also of creating new integrated

digital networks that can meet a lot of tomorrow's demands.

And that tomorrow is almost here. It is estimated that, while telephone traffic will continue to increase, traffic in the many forms of digitized data will exceed it within the present decade. The sources of this accelerating traffic are the digital computers that are being employed in an ever-widening range of industrial, administrative and informational functions. These computers and the digital equipment now emerging also operate by means of binary on-off pulses, sharing the same digital technology.

The interlocking keys to the digital world are software programs and semi-conductors. Software programs are sets of electronic instruction that determine the function of most switching and control operations that were previously handled manually or by electro-mechanical means within analog systems. These are implanted in semi-conductors--silicon chips containing hundreds of transistors that compose integrated circuits. Not only do these integrated circuits provide more rapid and efficient switching and transmission at lower cost, but they are also more compact and easier to install, maintain and diagnose than their analog equivalents.

The quality of service can be improved and new demands can be met by a process of modular expansion with new features, functions and services that can be added as they become available or desired.

CSO: 5500/7564

GOVERNMENT SEEKS TO END CABLE, WIRELESS MONOPOLY

Hamilton THE ROYAL GAZETTE in English 29 Apr 83 pp 1, 6

[Text]

Private talks which will help shape Bermuda's telecommunications future open on Monday between Government and Cable & Wireless.

They may herald the beginning of the end of C&W's long-standing communications monopoly and are almost certain to result in Bermuda receiving a share of the company's profits — one way or another.

Monday's meeting, the first of many, will be attended by the newly-appointed Industry and Technology Minister, the Hon. John Stubbs, who faces one of his first exposures to the negotiating table since taking on the new Cabinet post in February.

Subjects up for discussion will include the possibility of Government buying a shareholding in the company — an idea first mooted almost two years ago.

But Dr. Stubbs has indicated that this is not Government's only option.

"Cable & Wireless would prefer that we take a 20 per cent shareholding at a fair market price but I am not sure that this is Government's best approach," he said this week. "A more realistic and flexible solution would be to take a percentage of gross revenues. But even this could be very complicated because nobody

seems quite sure of the volume of communications traffic involved."

Though the issue is central to the talks, Dr. Stubbs will be pushing for both sides to concentrate on ways of expanding the business rather than simply carving up the existing market.

"I think we must discuss how we can increase the size of the communications pie at the same time as we are considering ways to give a slice of it to the people of Bermuda," he said. "If we can increase telecommunications usage and make the pie bigger, then there will be no net loss to Cable & Wireless."

One issue which is not negotiable, however, is Government's intention to obtain a share of the profits.

Said Dr. Stubbs: "Some of Cable & Wireless' exclusive rights lapse in June 1987 and although we do not intend to be rapacious, we would be foolish and naive not to claim a tariff. The exclusivity Cable & Wireless now enjoys was granted at a time when the capabilities of today's technology would not have been considered possible."

But the Minister is unlikely to have it all his own way on Monday.

Cable & Wireless is preparing accounts which

will show, for the first time, just how much or how little money its Bermuda branch makes. The company is also strengthening its presence at the meeting by flying in one of its regional directors who is believed to have been closely involved with similar negotiations in the Middle East.

CSO: 5500/7564

BERMUDA

BRIEFS

EARTH STATION DELAY--Construction of Cable and Wireless's new \$20 million earth station has been set back three months because of the work-to-rule and ban on overtime imposed by longshoremen. The ship carrying pieces for the giant 90-metre earth station antenna put to sea early yesterday afternoon after waiting in Bermuda for ten days to be unloaded by stevedores. The ship, Sea Enterprise, is now en route to South America where she will discharge and load other cargo, and return to Bermuda sometime in June to discharge the earth station equipment--almost three months behind schedule. That will mean the earth station will not be ready for operation until March of next year. [Excerpt] [Hamilton THE ROYAL GAZETTE in English 28 Apr 83 p 1]

CSO: 5500/7564

BRIEFS

COMPUTER COMMUNICATION WITH SPAIN--A joint project involving a system of information transmission by means of computers was agreed upon this morning at the Palace of Conventions between Cuba and the Intergovernmental Office for Information--IBI and companies headquartered in Spain. Signing for Cuba was Hector Rodriguez Llompart, member of the Central Committee and minister president of the State Committee for Economic Cooperation. Daniel (Legras), president of the Institute of Automated Systems and Computer Technology, signed for Spain. Participating in the project are the supplying firms, Spain's national telephone company, IBI Department of Projects, the Spanish Society of Communications, and others. The objective of the agreement signed today is the implementation of a pilot system for the transmission of information by means of computers. Rodriguez Llompart said he was gratified by the signing of the document concluding the studies and preparatory work of the IBI, the Spanish suppliers and Cuban specialists. Those studies, he added, will be the foundation for the preparation of the final plan aimed at implementing that project, which provides for training courses for Cuban specialists in our country and in Spain. It also provides for the creation of two computer centers with minicomputers produced in our country and the hookup into the international (?mobile) system of Spain's national telephone company. Rodriguez Llompart expressed the Cuban Government's gratitude for the cooperation it has received to IBI Director General (Fermin Bernasconi). [Text] [FL252108 Havana Domestic Service in Spanish 1821 GMT 25 May 83]

CSO: 5500/2076

INDIA, NEPAL TO BE CONNECTED BY COAXIAL LINK

New Delhi PATRIOT in English 13 May 83 p 5

[Text] India and Nepal were on Thursday connected by a coaxial cable link which makes telecommunication between two countries more reliable, reports UNI.

Communications Minister V N Gadgil received the inaugural call from his Nepalese counterpart Raghavendra Pratap Shah at a brief function in New Delhi.

Mr Gadgil described the link as 'another great step' towards strengthening of Indo-Nepalese friendship.

The coaxial link inter-connects the microwave systems in the two countries.

After speaking to Mr Shah, Mr Gadgil told newsmen that the reception was very clear. He said Mr Shah extended to him an invitation to visit Kathmandu. Accepting the invitation, Mr Gadgil said he hoped to visit Nepal in the near future.

Mr Gadgil conveyed to Mr Shah the greetings of the people of India to the Government and people of Nepal.

Deputy Communications Minister Vijay N Patil and the Minister of the Nepalese Embassy were also present at the function.

With the commissioning of the link this year, declared as 'world communication year,' Nepal becomes the third neighbouring country--after Bangladesh and Sri Lanka--to be connected with India by a broadband telecommunication system of high grade transmission circuits.

The link connects Raxaul in India to Birganj in Nepal. The microwave system was completed up to Raxaul in 1981. On the Nepal side, Birganj was already connected to Kathmandu by a 300 channel narrowband microwave system.

A coaxial link between Raxaul and Birganj was recommended by a study team as part of the Asian telecommunications network. The total length of cable between the two places was a little over five kilometres, of which 4.25 km,

laid in Nepal, was supplied along with all accessories by the Government of India. India also supplied the coaxial terminal repeater together with testing instruments and technical assistance at an estimated cost of Rs 8.25 lakh.

The medium would be capable of handling 1,300 speech circuits. Operator dialling circuits are now provided between Kathmandu and Patna, Calcutta and New Delhi. It is expected that the system would be automatised and full scale international subscribes dialling service introduced in the near future. [as published]

CSO: 5500/7129

INDIA

INSAT-1B PRELAUNCH TESTED; DETAILS GIVEN

New Delhi PATRIOT in English 13 May 83 p 5

[Text] Bangalore, May 12 (UNI)--The Indian National Satellite INSAT-1B has been delivered to the Kennedy Space Centre in Florida for final preparations before its launch in August, reports UNI.

INSAT project director P P Kale told UNI here today that all tests of the three-in-one satellite had been successfully completed at Palo Alto in California where it was built to Indian specifications on a contract basis by the Ford Aerospace and Communications Corporation.

Mr Kale, who had visited the United States for a pre-shipment review of the satellite, said the spacecraft would be moved to the launching pad sometime in July. The satellite would be launched atop the American space shuttle challenger in its eighth flight.

The satellite is one of the two in the INSAT-1 system. The other satellite, INSAT-1A, launched from Florida in April last year, was abandoned in September following sudden depletion of the onboard fuel.

All corrective measures have been taken to ensure that INSAT-1B did not face a number of minor deficiencies which resulted in the failure of INSAT-1A. INSAT-1B was originally meant to be an in-orbit spare for INSAT-1A.

Both the satellites are three-axis stabilised spacecraft with a precision attitude control system. Like its predecessor, INSAT-1B will be in a geostationary orbit. While INSAT-1A was located in 74 degrees east, INSAT-1B will be located at 94 degrees east longitude. Both the satellites were designed to have applications in telecommunication, television and radio working and weather monitoring.

Disturbance-free long distance telephony, regional and national hook-up of radio and television services and precise and swift weather monitoring would be possible with the use of INSAT-1B.

The satellite will make available about 4,000 two-day long-distance telephone circuits accessible even from the remotest area.

It has two television broadcast transponders which could be used for direct TV telecasting to low-cost community television sets in rural areas. The very high resolution radiometer (VHRR) with visible and infrared channels will provide full-earth coverage round-the-clock, half-hourly weather observation including cyclones, sea-surface and cloud-top temperature, water-bodies and snow mapping.

The satellite will have a data channel for relay of meteorological, hydrological and oceanographic data from unattended land and ocean, based data collection and transmission platforms.

CSO: 5500/7129

BRIEFS

ALL-INDIA RADIO IMPROVEMENTS--May 9: Two major radio stations of All India Radio in Maharashtra, will raise their power capacity from 10 kw to 100 kw this year. One of these, Nagpur, has already become operative from May 3, and the other, Pune, will start functioning within four months after its installation next month or in July. Giving this information to reporters at the last week-end, the information and broadcasting minister, Mr. H. K. L. Bhagat, said with the setting up of these and two 20 kw transmitters in Jalgaon and Ratnagiri, AIR would have covered 76 per cent of the area and 79 per cent of the population of the state by the end of the year. Mr. Bhagat said the power range in primary coverage of the Nagpur relay station could be extended from 50 kw to 120 kw. This change was being undertaken to provide primary services on medium wave to 80 per cent of the population in each state by the end of the current five-year plan. He said a 100 kw transmitter for Pune which was being tested at Bangalore would replace two 10 kw transmitters in Pune covering a radius of 60 km. Within three or four months the primary coverage of the Pune station of AIR would go up to a 120 km radius. The minister also announced that a new studio was being set up at Sangli. It was expected to start functioning by the end of the year, he added. [Text] [Bombay THE TIMES OF INDIA in English 10 May 83 p 3]

KULU EARTH SATELLITE UNIT--May 15: The Union minister of state for communications, Mr. V. N. Gadgil, yesterday laid the foundation stone of the Rs. 2.61-crore earth satellite station and telephone exchange here. Speaking on the occasion, he said that a new chapter was being opened in the history of telecommunications in Hamachal Pradesh. The country had made phenomenal progress since independence and today there were three million telephones in the country compared to 8,000 in 1947. Today, over 20,080 villages enjoyed the benefits of telephone service. He said the Prime Minister, Mrs. Indira Gandhi, had decided to provide telecommunication facilities in the hilly and backward areas irrespective of the financial outlay involved. The chief minister, Mr. Virbhadra Singh, said it was a historic day for Kulu as the earth satellite station would mark Himachal's entry into space-age communications. He urged the Centre to set up similar earth stations in Lahul-Spiti and Kinnaur districts. [Text] [Bombay THE TIMES OF INDIA in English 16 May 83 p 3]

MICROWAVE LINKS TO BE MONITORED--New Delhi, May 13.--The performance of the Delhi-Bombay, Bombay-Bangalore-Madras, Delhi-Calcutta, Delhi-Jullundur and

and Delhi-Srinagar television bearer microwave links is to be jointly monitored by officials of the Post and Telegraphs Department and Doordarshan every fortnight to ensure Transmission and reception of quality TV pictures at various Doordarshan centres connected by microwave links. A decision to this effect was taken at a meeting here yesterday between Mr H. K. L. Bhagat, Minister of State for Information and Broadcasting, and Mr V. M. Gadgil, Minister of State for communications. Mr Bhagat also requested Mr Gadgil, according to an official Press release, for expeditious completion of the Microwave links between Calcutta and Delhi, Madras and Kodaikanal, and Calcutta and Murshidabad, to facilitate exchanges of "live" programmes between Calcutta and Delhi as well as early commissioning of the TV relay centres at Kodaikanal and Murshidabad. The early commissioning of the microwave links connecting TV stations with the microwave system at Pune, Amritsar and Jaipur was also agreed to. Mr Bhagat pointed out that the Government was committed to extending TV services to various uncovered parts of the country at the earliest. Mr Gadgil assured full cooperation of the Communications Ministry in this respect.

CSO: 5500/7128/7130/7131

KING BIRENDRA OPENS RADIO NEPAL'S NEW STUDIO BUILDING

Kathmandu THE RISING NEPAL in English 10 May 83 p 1

[Excerpt] - **His Majesty King Birendra Bir Bikram Shah Dev inaugurated the new studio building of Radio Nepal amid a special function organised at the Radio Nepal precincts in the Singha Durbar complex Monday morning.**

After inaugurating the studio building, His Majesty the King inspected different studios and other units of the 115 million rupee Medium Wave Project completed jointly by His Majesty's Government and the Government of Japan.

Earlier, on arrival for the inauguration, His Majesty the King was accorded a warm welcome by the Ministry of State for Communication, Mr. Raghavendra Pratap Shah Assistant Communications Minister Mr. Ganesh Sherchan, and other officials of the project.

His Royal Highness Prince Gyanendra Bir Bikram Shah was also present on the occasion.

The Minister of State for Communications, Mr. Shaha, in his welcome address offered loyal gratitude to His Majesty the King for graciously inaugurating the studio building.

Mr. Shaha said that with development of adva-

nanced means of communications the world today was getting smaller and smaller.

The radio, Mr. Shaha continued, is one of the most effective and fastest media of communications, which, through its broadcasts, instantly takes information even to a remote corner of the country.

Mr. Shaha also disclosed that Nepal had undertaken a number of steps to mark the International Communications Year 1983.

He also underlined the need to diversify radio programmes to meet the aspirations of different sections of its listeners.

Assistant Communications Minister Mr. Ganesh Sherchan offered an address of thanks on the occasion.

Earlier, Acting Director General of the Department of Broadcasting, Mr. Bhogya Prasad Shaha, said that the new project was

a new step forward towards realising the noble wishes of His Majesty the

King to enable the entire Nepalese people to make use of the services of Radio Nepal conveniently.

He said that the project was completed in 15 months' time, a month ahead schedule, due to the cooperation of engineers and workers connected with the project.

The Ambassador of Japan, Mr. Kenichiro Nishizawa, said that the occasion marked a new chapter of communications in Nepal.

Speaking in Nepali, the Japanese Ambassador offered loyal gratitude to His Majesty for graciously inaugurating the project.

He said that Nepal-Japan cooperation was the reflection of very close relations between the two countries. It also reflects the desire of their people live in peace, health and prosperity.

He said although this project is not big, it is one

of the most modern and had been equipped along international standards.

The chief engineer of project, Mr Krishna Bahadur Khatri presented the project report.

He disclosed that with the commissioning of the present studio, Radio Nepal's broadcasting power has increased by 2000 times since the time of its birth.

Mr. Khatri said that the 100 KW transmission centres, each in Kathmandu and Pokhara, would enable 55 percent of the Kingdom's population to listen to the medium wave programmes broadcast by Radio Nepal.

CSO: 5500/4742

MARITIME SATELLITE COMMUNICATIONS SESSION HELD

LD241307 Moscow TASS in English 1200 GMT 24 May 83

[Text] Leningrad May 24 TASS--The formation of the global system of searching for and spotting ships in distress, based on single legal and technical norms, signifies a new stage in the history of world navigation, said senior official of the Soviet organisation "Morsvyazsputnik" Leonid Pchelyakov. He leads a Soviet delegation to the conference in Leningrad at which specialists from six countries of Europe and North America and also a number of international organisations elaborated and signed a protocol with recommendations to be submitted to Inmarsat (the International Organisation for Maritime Telecommunications by Satellites) and IMCO (the UN Inter-Governmental Maritime Consultative Organisation).

Leonid Pchelyakov said that general requirements to ship buoy-transmitters, ground notification means and sputnik relay stations were agreed upon at the Leningrad meeting which ended today. The would-be system is planned to include high orbit geostationary Inmarsat sputniks and receiving stations to ensure immediate processing of information within the Cospas-Sarsat framework. That independent program of searching for ships and planes in distress was formed by the USSR, USA, Canada and France. In the opinion of experts, it guarantees more precise and efficient determination of coordinates of ships and planes in distress.

As was noted by Leonid Pchelyakov, Soviet seamen attach great significance to cooperation within the framework of international agreements aimed at rendering efficient aid to ships and planes. The Soviet sputnik Cosmos-1983, specially launched for the purpose, ensured more efficient operation of the Cospas-Sarsat system which is to mark the first anniversary of its experimental exploitation in June twenty-two successful rescue operations were carried out over the time with the use of the data, received from the Soviet sputnik, including operations on the American Continent--in British Colombia (Canada) and Alaska (the United States).

CSO: 5500/1019

BELGIUM

PRC TO DISCUSS COMMUNICATIONS COOPERATION

LD070910 Brussels in French to Africa 1500 GMT 6 May 83

[Text] Following Paris, Mr Wen Minsheng, Chinese minister of posts and telecommunications, has begun a week's official visit to our country. The aim of his stay is to discuss a cooperation plan with Belgian officials to modernize the Chinese telephone network. This plan between Bell Telephone and the Chinese post office, which was the subject of a memorandum during the official visit of Foreign Minister Leo Tindemans to Beijing last March, provides for the delivery of 100,000 digital commutation switches to China and the construction of a factory by a joint company near Shanghai capable of producing 300,000 lines a year. This plan, with an estimated cost of 12 billion Belgian francs, puts our country in direct competition with France. During his visit to China last May, President Francois Mitterrand let it be known that France also had a chance of being entrusted with the modernization of the Chinese telephone network.

However, it is to be noted that this Belgian plan for cooperation with China aroused reservations on the part of the Americans, who consider that it will mean the transfer of advanced technology to a Communist country that could be used for military ends. However, following a lightning visit to the United States on 17 May, Leo Tindemans said he was convinced that the Americans had no further objection to the installation in China of a telephone exchange by Bell Telephone, which is itself a branch of ITT, the American giant.

CSO: 5500/2714

FINLAND

FINLAND TO FOLLOW OTHER NORDICS: SEPARATE MARINE PHONE VHF

Helsinki HELSINGIN SANOMAT in Finnish 5 May 83 p 11

[Text] Three new frequencies intended solely for the use of pleasure-craft sailors will be put into service at the beginning of June in the Finnish VHF radiophone traffic. At present 55 channels are used for this purpose. With the increase in leisure-time boating, however, they are overloaded, especially in summer.

The new frequencies for radio traffic between boaters are 155.500 MHz (channel L1), 155.525 MHz (channel L2) and 155.650 MHz (channel L3). They believe that these additional channels will above all relieve the load on international frequencies.

The other Nordic countries have been using pleasure-craft channels for several years now. They also have three additional channels, as Finland now has. In Sweden the L3 channel is not really used.

Boaters' new call channel is frequency 155.525 MHz, or channel L2, from which they will switch to working channel L1 or L3. If they do not get a reply after three attempts, boaters can call on channel 16 as has been usual up to now. From that they will switch to the boating channel or, in accordance with the new recommendations, to channels 69 or 77.

According to the latest regulations of the Post and Telecommunications Administration, twin listening ability must be built into equipment provided with pleasure-craft channels to be sold after the beginning of next year. In other words, one must be able to have two radiophone channels available for use simultaneously.

The Post Office says that many VHF radiophones are already provided with boating channels or they can at least be easily obtained. The new devices are already being sold. Among other things, the sharp increase in the number of VHF phones forced them to make this decision. A favorable price evolution and their versatility have influenced the demand for them. Heavy interference in particular plagues LA phones and one cannot get through to the public telephone network with them.

At the beginning of the year there were 3,300 VHF transmitters on ships, about 2,500 of them on pleasure craft. There are over 42,000 mobile LA transmitters.

Officials believe that the number of VHF radiophones will continue to increase sharply. About half of the devices now in use can operate on the new pleasure-craft channels, either as is or after minor changes.

11,466
CSO: 5500/2704

FINLAND

FINNISH CITIES STARTING TWO-WAY CABLE TV SERVICES

Helsinki UUSI SUOMI in Finnish 9 May 83 p 9

[Article: "Two-Way System Opens Unprecedented Possibilities; Services into the Home Via Cable TV"]

[Text] Suuryhteis antennijarjestelma (SYJ) [Big Public Antenna System] is bringing cable television into more and more Finnish cities. The system makes it possible to offer services until even recently undreamed of.

This year a cable television network will be created in Vaasa that will be capable of operating as a two-way system. In Tampere they have already decided to start two-way television operations by 1985.

In a two-way network viewers can refer back to the television station computer. With its help they can also take care of bank transactions, travel ticket reservations or even order food for the day to be delivered to their homes from the supermarket.

As soon as it is completed, the Vaasa cable television network will provide six television channels. In addition to both channels of the Finnish and Swedish television networks, viewers will see a selection of satellite programs and local videotex.

"We are building our trunk and branch network as a two-way system right from the start," Vaasa Telephone Company communications engineer Bror-Erik Karlsson said.

"Antenna networks inside residential buildings are not yet two-way, but such networks are already being built into new buildings."

The decision to go into two-way operation has not yet been made in Vaasa.

"In our opinion, there is no point in transmitting [as a two-way system] since the equipment that includes the technology is not yet available anywhere," Karlsson said.

"We can use a two-way system by hooking the camera up to the network anywhere at all, so that we are even now benefiting from it. The return channel picture

is shunted into a "head-end" amplifier and from there to the viewers. We can transmit events from all over to anywhere our network extends.

Tampere's Two-Way System the First in Europe

In 2 years time Tampere's Tietoverkko [Information Network], which was founded 10 years ago, will be the first in Europe to begin to transmit two-way telecasts. The network will be built at a total cost of 22 million markkas.

"We will begin our cable telecasts next fall and will add more services as they become possible," program director Matti Arjanne said.

Half of Tampere's old central district will be within range of the cable network by the end of August. There will be 40 hours of telecasts a week.

"We will begin operating to the full extent immediately. In addition to three television channels, we may offer two videotex channels," Arjanne said.

Tampere newspapers AAMULEHTI (Conservative) and KANSAN LEHTI (Social Democrat) would handle the videotex channels. As producers of printed matter, both are now ready to provide telecasts. The final decision is yet to be made.

Equipment from Salora in 1985

Tietoverkko has ordered the equipment for two-way operation from the domestic firm, Salora. The job of technical planning and development will take its own time and that is why the timetable for telecasts has been staggered.

"We sent in our order last January. At Salora they are taking their own time in filling it because everything has to be built from scratch. Nothing is ready-made," program director Arjanne said.

For the consumer the two-way system will mean acquisition of the so-called "black box." Helsinki television entertainment channel viewers will require such a box.

"The box we have will be two-way and with it viewers can on request, for example, convey their opinions on a given program to the telecaster," Arjanne explained the technique.

"We will get a mixed 20-channel system. There will be one more program channel. We will provide other services for outside users."

Commerce and Industry Enticed to Participate

Tampere's Tietoverkko is offering the use of the two-way cable system to commerce and industry.

"With the addition of the 'black box,' bank, travel agency and shopping services, for example, can be taken care of in the viewer's home. Furthermore, links with different kinds of computer-stored information are possible," Arjanne said.

In addition to the business world, they are also trying to arouse interest among public communities, like the communes.

They are trying to get the cost of the system divided up into the largest possible body of users. Financing is now arranged for through capital stock and loans.

Of Tietoverkko's owners, the city of Tampere, the Telephone Cooperative and Tampere Press (AAMULEHTI), which together hold 75 percent of the shares, each hold an equal amount of stock. Tampereen Tyovaen Sanomalehti Oy [Tampere Workers Newspaper Company] (KANSAN LEHTI) owns 14 percent. Oy MTV Ab [expansion unknown] and private stockholders also participate in the venture.

Modest Use Fees

In building Tampere's Tietoverkko cable television system, the partners have taken an investment risk, since no one can yet say anything about the number of households that will join the system.

During the initial phase membership will not cost home-owner associations anything. Home-owner associations will have to adapt their common antennas at their own cost to fit the system.

"We will collect a use fee of 20 markkas per household per month. When their own program channel is completed they will pay a 1,200-markka hookup fee and a viewing fee of 30 markkas a month," program director Matti Arjanne said.

A Vaasa cable television house hookup will cost 1,200 markkas and 800 markkas will be collected from each household. Programs can be viewed for a 5-markka a month charge.

11,466
CSO: 5500/2704

FINLAND

BRIEFS

VIDEOTEX COOPERATION PACT SIGNED--An agreement on experimental service has been concluded between the Post and Telecommunications Administration and three private Telset companies. Through the experiment now to be set in motion, a Post Office videotex user will have access to a direct connection with the Helsinki, Turku and Tampere Telset systems and will be able to use them for the cost of a local phone call throughout the entire country. According to general manager Pekka Tarjanne the agreement will mean a significant improvement in service for videotex users. All told, there are about 1,000 videotex users in the country at the present time. A total of about 32,000 information screens will be available in four Telset systems. [Text] [Helsinki HELSINGIN SANOMAT in Finnish 9 May 83 p 26] 11466

CSO: 5500/2704

TELEVISION SATELLITE NOT EXPECTED UNTIL 1986

Frankfurt/Main FRANKFURTER ZEITUNG/BLICK DURCH DIE WIRTSCHAFT in German
6 May 83 p 7

[Article by Guenter Geldner: "Probably No Chance for the Luxembourg TV Satellite before 1986: Political Grounds/Financing Guarantee the Delay"]

[Text] Frankfurt, 5 May. The realization of the Luxembourg TV satellite project, heralded for the past 5 years, is not to be expected before 1986. The reasons for this are neither financial nor technical. As before, political considerations stand out: Luxembourg does not consider itself fully independent in media policy as a small country between powerful neighbors. It has to avoid giving the impression that it has become a pirate transmitter gone wild and therefore take the appropriate political considerations into account.

The financing of the television satellite is assured. The contribution by the Federal Association of German Newspaper Publishers of 25 percent toward the "CLT-Luxembourg Television Company" (CLT is the holding company, and RTL [Luxembourg Radio Broadcasting and Television System] the operating company of the Luxembourg satellite project) is still up in the air. But for the Luxemburgers this was interesting more for publicity reasons in the era of the social-liberal coalition in Germany, since other financially potent and generally interesting partners--like the American CBS--have already shown strong interest.

In the development of the project Luxembourg oriented itself strongly toward France, because the main markets were believed to be there. At the present time an intense media discussion is underway in France on the subject of breaking the TV monopoly, regionalization of television, the licensing of private stations and the legalization of a number of existing pirate transmitters. Since this discussion is still not over, the French share owners, who possessed a veto minority of 25 percent, blocked the continuation of the satellite project.

In contrast, the problems with the German Federal Government have been largely solved for the Luxemburgers with the change of government in Bonn. At a meeting in February of this year the responsible ministers of Luxembourg and Germany agreed on closer cooperation between the two countries in the

field of cable television. What the possibilities of feeding RTL programs into German cable installations involves is to establish the fact that they want to depart from the previous formulation of "local custom" and aim at "local possibility." In translation this means that Luxemburg programs may no longer be fed only into regional cable networks in areas where previously Radio Luxemburg could also be received by wireless means, but practically on a national level.

Cable television thereby assumes a new importance for Luxemburg alongside the satellite project--which concerns the German markets. According to more recent reports the areas encompassed in Germany have already been extensively cabled. Not with broad band cables of the latest technical standard, it is true, but still sufficient to carry 6 to 8 additional television programs. Further carrying capacities within these cable networks have been freed through the inclusion of the German radio network; the result of putting into service the Duesseldorf television tower. Hooking up private households in the covered areas to the already available cable networks would certainly be possible within a short period of time, without interfering with the expansion of cable installation with modern broad band systems. No decisions have yet been made on this, however.

The development of a German-language television program will therefore also be advanced because in addition there has been created a technical possibility of beaming over a vacated television converter a German television program which could be received regionally right away in the Saarland and in the adjoining parts of Rheinland-Pfalz. Whether this will actually happen is not yet certain, but rather probable.

Despite these new possibilities the Luxemburg satellite project has in no way been written off. As before, Luxemburg plans to start its own satellite, although a participation by Luxemburg in the German-French Community Satellite Project, depending on the political changes in France and Germany, was also discussed, which would be technically easier. For 1985 and 1986 Luxemburg has options for its own satellite both in the Space Shuttle and in the Ariane Rocket Project. Failure to utilize these options would cost over \$100,000 at any given time.

The financial situation of the country of Luxemburg absolutely does not permit the cancellation of this project as an important economic factor. As before, one must also take into account the fact that the Luxemburg satellite will transmit 3 complete color programs: one for Germany, one for France, and a European program. The latter is intended for the Benelux countries and England. The technical development of digitalized radio transmissions in the gigahertz range makes the transmission of radio programs interesting also for the remaining two transmission channels of the Luxemburg satellite. Digitalized transmission of radio programs in this wave range may be received also with mobile radio apparatus. A special parabolic radio antenna is not necessary in this case. A simple rod antenna assures perfect, static-free reception of the highest quality.

6108
CSO: 5500/2701

PLAN FOR PAY-CABLE TV NETWORK ADVANCES DESPITE CRITICISM

Opposition in Parliament

Oslo AFTENPOSTEN in Norwegian 14 May 83 p 3

[Commentary by Per Danielsen]

[Text] The all-clear signal for implementing Norwegian Radio's pay-TV plans is working its way to the forefront. In the short run, innovations do not seem very realistic. A Scandinavian alternative channel doesn't look like it could compete with the Norwegian Radio proposal, and future satellite competition from abroad forces a decision this fall. Meanwhile, this does not mean in the long run that the issue of a TV channel independent of Norwegian Radio is decided for good.

Most people probably would not understand a parliamentary refusal to approve Norwegian Radio's pay-TV plans. In the short run, it would be impossible, even if it were desirable in principle, to keep Norwegian Radio from being given the opportunity to start working on it. Meanwhile, the long-term questions about the establishment of a new, long-lasting TV channel are much too important to be determined by a forced governmental approval. As far as the main question goes, regarding a competitive TV system, it looks, unfortunately, as though it might be best to hold our horses a little. An innovation of this kind is just not possible--there isn't a majority in the Storting for a practical alternative.

Actually there is no cause for amazement that the Socialist Left Party, the most power-hungry factions in the Labor Party, and Ragnhild Haarstad of the Center Party were among the first to welcome Norwegian Radio's plans. The new Norwegian Radio channel could be used, you see, in a larger political game, as an element in the attempts to protect Marienlyst's actual TV monopoly and to prevent an expansion of the freedom of expression and pluralism in our society. Norwegian Radio's TV-2 will, you see, undermine some of the subsistence for any country-wide channel independent of Norwegian Radio. A privately run television channel would, of course, have to base its programming to a great degree on popular material. This sort of material is a necessary precondition for other, more serious programming for example quality news coverage. A privately run channel without the necessary resources and a high standard of quality would not last long.

From the point of view of the TV audience, it must seem almost unheard of that the TV license cost would have to be doubled, as Norwegian Radio is now actually proposing with its pay TV. Television financed by advertisement would, after all, be free. On this point most people will strongly disapprove of Norwegian Radio's plans. However, it is in fact perhaps a more important objection that the proposed "Bjartmar channel" in its first run would not reach more than some 50 percent of the population, and that the channel would introduce a politico-cultural dilemma: Norwegian Radio should not present itself as endorsing a double standard, as both a film entrepreneur and a guardian of the uniqueness of the Norwegian culture. Also for that reason, the question of an alternative to Norwegian Radio will come to the forefront again. As Hallgrim Berg (Conservative) said the other day in the Storting: It should not be the task of the state to disseminate John Wayne's fantasy world among half of the population of Norway.

Minister of Culture Lars Roar Langslet's objectives are clear. The government primarily wants a new, country-wide TV channel, independent of Norwegian Radio. But in the short run Langslet's opportunities to put the plan through are frozen. There isn't a majority in the Storting in favor of advertising, nor for the other law changes which would have to be put through to allow private parties to start production on a new channel.

Even though it would definitely be tempting, therefore, it won't be possible to approve Norwegian Radio's plans in principle and then let others get it going, independent of the state institution.

Meanwhile, the last word has not been said in this matter by any means. Even if most indications show now that Norwegian Radio is going to win out with its plans, it is a long way yet until the matter will come up before the Storting again in the fall. Much can happen in the meantime. We have already seen a number of sensational turnarounds in the media debate. The ECS2 satellite won't last forever, either. And even the main question concerning a new, country-wide channel is subject to review. Time continues to work in favor of the Conservative government's main viewpoints. The hourglass, in any case, is about to run out for the most regulation-happy species of politicians.

Labor Party Organ Attacks Plan

Oslo ARBEIDERBLADET in Norwegian 11 May 83 p 4

[Editorial: "A Punch in the Nose for Media Policy"]

[Text] Yesterday's Storting debate about media development and new types of broadcasting is the most extensive debate our parliamentarians have ever had on this subject. The debate was not only one of the most interesting ones we have had at Lovebakken for a long, long time. It was also useful and informative. It showed that it was high time the Storting plugged itself in and expressed its opinion on some very central media policy questions.

We don't know how Minister of Culture Lars Roar Langslet managed to live through the Storting debate yesterday. But assuming he understood what was said, and

for what political reasons, then he hardly can have conceived of the debate as anything other than a big punch in the nose of his own media policy--the media policy of the Conservatives and the government. Many people who have speculated in new media developments must also be feeling betrayed today, by the false hopes raised by the government and the political leadership of the Department of Culture. Despite the fact that there is widespread agreement in the Storting to extend the trial period for local radio stations and cable TV, it is easy to see that there will be a lot of scorched earth left where Langslet and Co. once encouraged people to commit themselves and forge ahead. The whole affair shows how far it has come around since the beginning, when the government heralded its media policy as the first indication of the new regime, and announced that "anything goes," without first taking care that the individual central issues of policy be passed by a majority of the Storting.

The voting which took place in the Storting yesterday involved the following, among other things: A large majority in the Storting said "no" to financing Norwegian radio and television broadcasting by means of advertising. A large majority said "no" to a proposal involving private media monopolies. A large majority wants Norwegian Radio only to run country-wide or regional broadcasting systems. A large majority thought that Telecommunications should remain as the principal owner and developer of cable networks. And lastly, a Storting majority wanted, in practice, to strengthen Norwegian Radio, including giving Norwegian Radio the opportunity to develop a pay-TV "TV2" system using the prospective satellite technology.

We would particularly like to emphasize the Storting's unequivocal position on advertising as a source of financing for the "new" media systems. This viewpoint is important, and is a correct one, for various reasons. For our part, we have never made a secret of the significance which the ban on advertising has had for the press in this country. Advertisements on radio and television would mean fewer newspapers and more newspaper monopolies. In our opinion, this by itself is too high a price to pay for a couple of private radio and TV stations. As clearly as the opinions were expressed in the Storting yesterday, we have every reason to believe that the advertising ban is a fortress which will hold out throughout the current Storting term.

When the Storting said "no" to advertising, this hardly meant that the Storting intended to dismiss the entire problem of financing. We presume that there will soon be debates including discussion on Financing by contributions, licenses and taxes, direct payment methods (as in "pay-TV"), and perhaps also a redistribution of the so-called stamp tax, the full amount of which now goes to Norwegian Radio. If the media system were to change, this would encourage increased sales of radios and TV sets, and it would then make sense to assess the revenue from the stamp tax at a somewhat higher level.

Minister of Culture Lars Roar Langslet yesterday justified much of the new media development by stating that "a flood of foreign programs" are now on their way to us via satellites. Given this situation, it makes sense to gamble on new Norwegian alternatives for the airwaves. We believe the description of

the situation is correct, but we think it is a rather modest strategy to emphasize speculation in local radio and cable TV. On the other hand, it is good strategy to fortify Norwegian Radio so that our central broadcasting institution can compete with foreign broadcasting by means of programs which are produced under Norwegian influence. It is for precisely this reason that a Storting majority approved Norwegian Radio's plans for a TV2 system to be set up shortly. This would be a Norwegian alternative to the contending flood of foreign television programming. It is striking how unwilling the Conservative politicians are, whether they sit in the Storting or in the government, to let Norwegian Radio take up the competitive challenge which is inherent in current media developments.

It is, therefore, all the more important that the Storting majority showed its opinion so clearly.

9584

CSO: 5500/2702

PANA EFFORT TO PROMOTE PAN-AFRICANISM UNDERWAY

London WEST AFRICA in English 23 May 83 pp 1222-23

[Article by Lyse Ducet: "PANA Eager To Begin"]

[Text] Lyse Ducet reports on this new network of united news agencies whose aim is to provide an 'African perspective'.

THE PAN AFRICAN News Agency (PANA) recently announced its best news yet: that it will start operating on May 25, the 20th anniversary of the OAU, with a long awaited trial run.

In Dakar, at PANA's main headquarters, the agency's technical committee met on April 18-23 to examine reports from PANA's five regional pools and to solve any remaining logistical problems. Through closed door sessions which lasted from early morning to midnight, representatives from the regional centres (Kinshasa, Khartoum, Lagos, Lusaka, and Tripoli) and from international organisations such as UNESCO, the OAU, the International Telecommunications Union and the Pan African Telecommunications Union, discussed the issues of frequencies, oscilloscopes, and telegraphic converters.

PANA, an idea which began with the OAU and became an organisation in 1979, sees its role as a continental news agency whose purpose is to gather and disseminate news and information from African countries to Africa and to the rest of the world.

If it succeeds in its tasks, Africans will no longer have to depend upon the foreign press to receive news about their continent. African and non-African countries will be able to learn about more than sensationalised superpower conflicts, the latest coup, or how many people are dying in yet another drought. In the words of PANA director, M. Cheikh Ousmane Diallo, PANA's purpose is "to say something different".

To correct imbalances in an information order monopolised by Western press agencies, PANA's aim is to be an alternative to superficial doomsday reporting by providing more meaningful analyses from an African perspective. A planned data bank will, when operational, be a source of documents and information to complement daily news. African specialists will be asked to contribute features on a variety of topics.

To promote Pan-Africanism, information from news agencies across Africa will be distributed continent-wide. The OAU Press Director, M. Onambele Fouda, emphasised that "in order to promote unity, Africans must get to know themselves better — culturally, economically, as well as politically."

Changing Africa's image and promoting Pan-African ideals is no mean task. Its success depends on the reliability of a complicated and expensive communications system as well as on the credibility of a news agency whose main information source will be government-sponsored press services. While few people question the agency's objectives, some are sceptical about the means for achieving them.

The system's technical questions were examined, for the final time before the start up, at the April meeting. PANA's complete internal network consists of links between Dakar and the regional centres and between these centres and their pools. Information will flow from member countries directly to Dakar or through the

regional centres. Dakar will receive the dispatches and retransmit them to the regional centres.

When PANA starts up it will use only its own internal communications linkages, be they specialised telecommunications circuits, radiotelegraphy, or telex networks. For a continent which must often resort to European linkages to communicate internally, this is itself an achievement.

At present, Dakar is linked to Kinshasa, Lagos, and Tripoli by specialised or dedicated telecommunication circuits, and to Kinshasa and Lusaka by radiotelegraphy. Given the importance of reliable links between Dakar and the regional centres, it may eventually be necessary to transmit entirely through dedicated circuits. But, in the trial period, available means will be tested and assessed for their suitability. Given the high cost of leasing circuits, as well as limitations on the volume of information (each country can transmit 1,000 words or four articles a day to PANA headquarters), less costly facilities may prove to be viable.

In the West Africa section, Dakar is linked to Lagos by a leased telegraphic circuit which runs via a submarine cable. Member countries will transmit to Lagos or Dakar by telex and Lagos will relay information from PANA headquarters by radiotelegraphy or telex. All pool members are equipped to transmit information but many are still in the process of obtaining reception facilities. Through UNESCO, as well as such organisations as WANAD (the West and Central Africa News Agency Development Project, financed by the Federal Republic of Germany) and AGFUND (the Arab Gulf Countries' Fund), all countries will eventually receive the necessary equipment and training. Guinea, The Gambia and Niger do not have national press agencies but will use their Ministries of Information until news agencies are established.

UNESCO recently announced the granting of 350m. CFA Francs-worth of technical equipment, which will be necessary to the trial-run period. During the handing-over ceremony in Dakar Djibo Kâ, the Senegalese Information Minister, said the "essential" role which PANA would play would only be served by "objective, truthful, free and independent reporting, which implied an educational as well as an informative role".

At the Lagos headquarters, PANA will be assisted by the News Agency of Nigeria (NAN) which has procured a building to house the PANA operations and will provide staff assistance until the PANA team is fully recruited and trained. In the words of a NAN journalist: "Lagos is ready."

Nevertheless, PANA's first months will be ones of trial and error. And PANA is still awaiting confirmation of preferential tariffs from national telecommunications systems — a finance which will be crucial to the organisation's viability.

Once PANA is on its feet technically, it is news quality that will then be decisive to the agency's effectiveness. In emphasising the principle of member sovereignty, PANA will retransmit, without alteration, information from national press agencies. PANA officials accept that, in the case of many African press agencies, news will be essentially government supporting. But they feel that it is more important that the news circulates at all. Diallo urges news services to strive for "professional standards", since it is upon this that PANA's credibility will depend.

Furthermore, while PANA has set itself the task of using information to unite, it does so with countries who are, on many issues, very much apart. The obvious question for an OAU agency is whether the same conflicts which have harmed the OAU will also imperil PANA. But in the opinion of one of PANA's main consultants, the organisational problems are not the same as those that plague the OAU.

He pointed out how, ironically, when the OAU was at its most divided, countries were still collaborating to launch PANA.

Officials explain that, on any topic, countries will be able to select the news report they deem most reliable. Alternatively, the availability of a wide range of news sources will provide a broader interpretation of events and allow agencies to assemble a more complete picture.

In addition to national reports, PANA will provide features and background information. For example, in the case of the Nigerian expulsions, PANA would receive and retransmit dispatches from Nigeria and other press services, and it would also provide a more detailed feature on the issue of migration in Africa in order to put the event in perspective.

Chad's politics could provide another controversial case. Its Minister of Information, M. Soumaila Mahamat, explained to

this correspondent that misinterpretation of his country was a result of poor information. Criticising the foreign press agencies, he underlined how Chad's "tarnished image and denaturation of its history," could be rectified by more "realistic reporting".

Furthermore, aside from the divisive issues, PANA will also concern itself with what unites: Africa's position on international negotiations for fairer tariffs and stable prices; reporting on mistreatment of Africans abroad; issues like apartheid and Namibia on which the continent can speak with one voice. This is PANA's uniqueness — the expression of a continental perspective. No other news agency has set itself this task.

Nevertheless, PANA will also face the thorny problem of "objectivity", a problem endemic in information which, despite the claims of Western press agencies, affects news the world over. PANA's Information Adviser, Professor Alfred Opubor, expressed an impatience with the critics who assume that all African reporting will be biased. "They forget that we are professionals. Our journalists have been trained in some of the best schools."

CSO: 5500/161

PANA INITIATES SERVICE ON 25 MAY

AB251510 Libreville Africa No. 1 in French 0630 GMT 25 May 83

[Text]

Reportage on Initiation of PANA Service

Goals, Problems Highlighted

AB251510 Libreville Africa No. 1 in French 0630 GMT 25 May 83

[Text] The PAN-AFRICAN NEWS AGENCY, PANA, has chosen 25 May 1983 to send its maiden dispatch to African national press agencies. From Dakar, Adama Gaye gives us some details on the objectives of the PANA:

To contribute toward reducing the imbalance in the flow of information between rich countries and the Third World and to promote the emergence of horizontal information, thus breaking the monopoly of big foreign press agencies — these are some of the fixed objectives of the PANA, which appears ready to begin operations.

As proof of this, over 20 African countries have signed an agreement on the establishment of the PANA, and the treasury of the PAN-AFRICAN NEWS AGENCY has recorded receiving more than 160 million CFA francs out of a budget of about 300 million. These funds come from the contributions of member countries, international organizations like UNESCO, and from Arab countries.

About 35 African states have national press agencies. Clearly, this also means that the PANA proposes to feed many consumers as a supplier of continental news and to provide extracontinental news through regional pools established in certain large African capitals such as Kinshasa and Lagos, among others.

Thus, the question will not strictly be one of sending dispatches. The PANA will also publish two news bulletins. The first one will serve to disseminate information on the activities of the United Nations and some inter-African organizations, whereas the second will consist of articles on development under a new vision.

In order to be able to achieve its objectives, the PANA must first overcome certain obstacles, among which, according to Mr Cheick Ousmane Diallo, is the need for the PANA to resolve the equipment problems facing African countries that do not have the means to receive and send intelligence.

It is evident that since 1978, when an OAU meeting in Kampala drew up the general guidelines of the PANA, some of the objectives have been fulfilled. The PANA challenge must be won, the Senegalese prime minister said recently, for, after all, the right to good information is only a question of commonsense.

Begins Operations 25 May

AB251535 Dakar PANA in English 1445 GMT 25 May 83

[Text] Dakar, May 25, (PANA) — The pilot service of the PAN-AFRICAN NEWS AGENCY (PANA) was launched today in Dakar at a ceremony presided over by Mr Djibo Ka, Senegal's minister of information, telecommunications and relations with the assemblies.

The minister said that the creation of PANA was a strategic

necessity for the OAU in the realisation of its objectives and hoped that it would go down as an undeniable success in the difficult process of the integration of the member states and the political and cultural decolonisation of Africa. He said that the communicators charged with the operations of PANA ought to be mediators who would report and explain, with competence and responsibility, the economic, cultural, and political realities which would shape the future of Africa. He expressed the view that PANA would not be an agency whose action is motivated by the search for profit but one with a high social mission. PANA ought to be an agency which is "credible through its speed in the collection of news, the interest in its content and the objectivity of its news which will be devoted to the description and analysis of the various aspects of development in Africa," the minister added.

In his own speech, the director of PANA, Mr Cheick Ousmane Diallo, said that it was the wish of the agency "for news in Africa to be placed at the service of peace in our countries, among the states of Africa and in Africa as a whole." He said that PANA would focus on African and international political news, the major issues of economic development and cooperation and social development, especially in areas like education, culture, science, health and youth affairs. "In this way," he explained, "we can

be better placed in a position to produce news and information which would be instructional and useful and would enhance the understanding of developmental problems whose solution depends on the establishment of greater cooperation among African states."

Mr Diallo also suggested that a number of programmes be initiated to establish a "permanent debate on pan-Africanism." These include the organization of a symposium which will involve political scientists, thinkers and African political activists, the creation of OAU clubs and the setting up of an OAU university.

A large number of individuals and organisations from all over Africa and different parts of the world sent congratulatory messages to PANA on the occasion of its launching. The current chairman of the OAU, President Daniel arap Moi of Kenya, in his own message, recalled the various landmarks in the efforts to set up PANA which he describe as "an agency that would voice

African interests and aspirations and correct the distorted picture of Africa resulting from partial and negative information published by foreign news agencies."

The secretary-general of the OAU, Mr Edem Kodjo, in a congratulatory message to PANA said that "its take-off, coinciding with the 20th anniversary of the OAU, is evidence of the maturity of our continent which, despite all kinds of obstacles, has succeeded in setting up this project which has no parallel at the continental level anywhere in the world." Mr Kodjo said that he was certain that PANA would enable the different countries of Africa on the basis of equality and sovereignty to defend their national interests and present a common African point of view on the major problems facing the world. "It goes without saying that the starting of operations by PANA in 1983 — the international communication year — will contribute to the installation of a new world information order and the total liberation of the continent," the OAU secretary-general concluded.

The director-general of UNESCO, Mr Amadou-Mahtar M'bow, wished PANA complete success and described it as "a primordial instrument for the establishment of a new world information and communication order." He said that UNESCO was pleased to have played an important part at every stage of the conception and development of PANA and renewed his organisation's support for the agency which he said would serve to promote the general development of communication in Africa.

The chairman of the inter-governmental council of PANA, Mr Lucio Lara, described the launching of the agency as "a dream come true" and expressed the hope that it would aid the process of African unity.

PANA's pilot service includes a daily news service, weekly bulletins on sports and a round-up of editorial opinions in the African media. Others are features, interviews and special reports. The agency is, to start with, disseminating 8,000 words of news per day, in English and French. This will be increased to 25,000 words in English, French and Arabic when it goes into full operation.

CSO: 5500/162

AUTOMATIC TELEPHONE LINK TO END MOUILA'S COMMUNICATIONS PROBLEM

Libreville L'UNION in French 12 Apr 83 p 2

/Article by Ogangaga-d'Ekarapango/

/Text/ Mouila's microwave network has had a new head, Elie Jocktane, since September 1982. In reference to the difficulties inhabitants of this town have had in telephoning anyone on the outside and vice-versa, Mr. Jocktane mentioned during a meeting with the Union that what was needed was an automatic telephone. He also said that downtown, the two banks are cut off from any communication. To make a call to another town, and even within Mouila, one has to go through the telephone exchange first, he noted, and added that the connection was difficult to make. And, communication conditions are not good, entailing long hours of waiting and constant cuts in the line. Linked to the telephone exchange, Mouila's telephone users cannot make a connection on the outside without going through the microwave link, which functions very well despite a few problems. The problem of telephone connections between the two banks is basically caused by the deterioration of the cable passing under Ngounie bridge. Thus for the time being, the city of Mouila is practically cut off from the rest of the country. Any transaction to be carried out by telephone is difficult, if not impossible. This situation is now considered to be nearly over, however, since there are plans to provide the city with not only an automatic telephone, but also a modern network.

9805

CSO: 5500/148

BRIEFS

MICROWAVE LINK PLANNED--WINDHOEK--The Post Office in South West Africa plans to replace the overhead telephone cable between Okahandja and Tsumeb--which it says is often damaged in unofficial target practice by soldiers--with a microwave link. The Postmaster-General of Windhoek, Mr P W A Senekal, was reported in Windhoek yesterday to have asked the Administrator-General, Dr Willie van Niekerk, for R10,3-million for capital works in the forthcoming year. The Administrator-General is to announce the budget for the territory next month. About R5-million is needed to build an electronic telephone exchange in Windhoek and the rest is needed for the substitution of the co-axial cable from Okahandja to Tsumeb with a microwave system, which will cost about R10-million over three years. [Text] [Johannesburg THE CITIZEN in English 20 May 83 p 5]

CSO: 5500/159

SOUTH AFRICA

BRIEFS

'HOPPING' FREQUENCY SUCCESS--The South African arms industry has scored another success overseas, this time with radio equipment. Armscor magazine Salvo reports that at a recent overseas demonstration the latest Nato electronic warfare equipment was unable either to detect or jam the SADF's frequency-hopping radio equipment. Last year the head of Armscor, Commandant Piet Marais, disclosed that South Africa had achieved a major breakthrough by developing a frequency-hopping radio system. The system hops automatically from one frequency to another every split second thus making it impossible for an enemy to tune into the broadcasts. The radio equipment was shown by Armscor at the controversial weapons exhibition in Greece last year. This is the first time, however, that it has been acknowledged that the equipment has been tested by Nato. The frequency-hopping radio equipment was developed for the SADF by a Pretoria firm, Grinel. Salvo adds that more than 10 percent of Grinel's turnover is spent on research and development. [Text] [Johannesburg THE STAR in English 17 May 83 p 3]

ACCESS TO INFORMATION NETWORK--From May 31 South African businessmen will, for the first time, be able to get access to the world's leading commercial information processing network. Access to the General Electric Information Services Company Mark III* service will be available via Saponet in all major centres. The network uses satellite and undersea cables to connect its 6 000 international customers to three giant computer "supercentres"--two in the USA and the other in Holland--where information is stored and processed on 44 of the world's largest mainframe computers. The network itself contains 450 computers and more than 800 000 km of cable. For South African businessmen, access to the network is straightforward. A local telephone call to a Saponet access point in any of the major cities will connect the user instantly to the service. Telex-like terminals, word processors, micro-computers, mini-computers and large mainframes can be used to transmit information to and from the network via the local telephone connection. About 90 percent of the world's business telephones are within a local call of the network. Mr Guy Hodgson, manager of the South African General Electric Geisco division, says: "An international processing network like Mark III* allows businessmen and computer specialists to work alongside their own in-house installation, to keep trace of international operations, to plan comprehensive strategies, and to consolidate reports worldwide in seconds." [Text] [Johannesburg THE STAR in English 19 May 83 p 21M]

BIG IBM COMPUTER--Legal and General Volkskas has intensified its computerisation drive by investing R2,5 million in an IBM 3083/B16. Mr James Boonzaaier, L&GV's general manager, administration, says the computer will treble the company's computer power. The new computer, only the second IBM 3083/B16 to be installed in South Africa, is expected to be operational from October 1. Benefits for L&GV listed by Mr Boonzaier include improved client service, an expansion of the data base being developed by L&GV and a speedier move towards the company's goal of maximum office automation. [Text] [Johannesburg THE STAR in English 18 May 83 p 14M]

CSO: 5500/161

ZIMBABWE

BRIEFS

EDUCATIONAL TV CHANNEL--A second television channel for education is to be introduced, the Deputy Minister of Information, Posts and Telecommunications, Dr Naomi Nhwatiwa, said yesterday. Opening a two-day rural communications workshop in Harare yesterday, she said the second channel would supplement educational programmes beamed out by Radio Rour. An experiment in radio telephone services would soon be conducted in Gokwe and, if successful, would be spread into other rural areas. "This programme is geared for the information network between people, Government organisations and non-government organisations," she said. Work on the first rural communication centre had already started at Murombedzi near Chinhoyi. The centre would have a telephone service, radio and television facilities, a post office and a book shop. [Text] [Harare THE HERALD in English 12 May 83 p 1]

CSO: 5500/161

END